EXPLORING THE RELATIONSHIPS BETWEEN POSSIBLE SELVES AND EARLY TEACHER IDENTITY OF TURKISH PRE-SERVICE TEACHERS

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Abstract

Pre-service teacher (PST) education at higher education institutions is pivotal to early teacher identity development. Possible selves theory presents a framework for understanding teacher professional identity, which is theoretically supported but not empirically tested sufficiently. This study set out to examine PSTs' early teacher identity in the Turkish context and the expected and feared possible selves of PSTs as predictors of early teacher identity through structural equation modeling based on empirical data from 350 freshmen and senior PSTs. The results suggest that PSTs' expected teacher possible selves have a medium level significant and positive effect on early teacher identity, while feared teacher possible selves have a low level significant and negative effect on early teacher identity. PSTs' early teacher identity and possible selves were found as very high, which is also examined in terms of gender, grade, and department variables. The results are discussed, and suggestions are offered for pre-service teacher education.

Keywords: early teacher identity, possible selves, pre-service teacher education, education faculty, teachers

Introduction

Teacher identity has been a hot area of research across the world for some time, particularly since the 1990s (Beauchamp & Thomas, 2009; Beijaard et al., 2004; Lasky, 2005). That it is a significant factor in a teacher's long-term success (Alsup, 2004) plays a role in this focus; however, identity development is a complex process and prone to shifting. Identity shifts are expected not only at further stages of teaching careers but also in teacher education programs and the period of beginning to teach (Beauchamp & Thomas, 2009). Therefore, teacher identity is not limited to a certain part of a teaching career. This proneness to shift is

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quite plausible since people's beliefs, minds, and actions are shaped by cultural, historical, and social structures (Lasky, 2005). So, social and personal elements influence teachers' professional development (Freisen & Besley, 2013; Kelchtermans & Hamilton, 2004; Meijer et al., 2011). Development of a professional identity is therefore an important component of pre-service teacher training (Friesen & Besley, 2013), since the transition from being a student to being a teacher is a traumatic period (Marso & Pigge, 1992).

Among many other factors, it is highlighted that a pre-service teacher's reflection towards one's "self" is a significant factor in the formation of early teacher identity (Beijaard et al, 2004), which makes possible selves theory a related concept to teacher identity development. Hamman et al. (2010) argue that teacher identity research is limited since it has not paid sufficient attention to psychological models of identity development, the studies are mostly atheoretical, and teacher identity research ignores the nexus between present identity and future orientations; however, embodiment of possible selves theory into early teacher identity development renders the needed theoretical framework for understanding the contribution of future-oriented thoughts as well as examining contextual and motivational factors in early teacher identity development.

Though a theoretical support on the relationship between identity and possible selves theory is extant in the literature (Cross & Markus, 1991; Dunkel, 2000; Dunkel & Anthis, 2001), empirical research to confirm this relationship regarding early teacher identity is limited (Çetin & Eren, 2018; Hamman et al., 2010, 2012). Quantitative studies are scarcer, as very little research has attempted to quantitatively operationalize and measure teacher identity due to earlier absence of instruments (Hanna et al., 2019). This study aims to test the structural relationship between early teacher identity and possible selves of pre-service teachers in the Turkish context. Given the peculiarities of Turkish pre-service teacher education, data on the possible selves and early teacher identity of Turkish pre-service teachers are expected to contribute to literature, as well as inform teacher educators at pre-service teacher education institutions in helping pre-service teachers develop professional identity through uncovering the link between possible selves theory and early teacher identity.

Theoretical Framework
Teacher Identity in Pre-service Teacher Education and the Case in Turkey

Teacher professional identity is a difficult concept to define. This is due to the facts that it is a dynamic concept, it shifts over time, and a variety of issues such as connection between self and identity, role of emotion, power of stories and discourse, reflection and contextual factors should be taken into consideration in forming a definition (Beauchamp & Thomas, 2009). Lasky (2005, p. 901) defines teacher professional identity as "how teachers define themselves to themselves and to others" and teacher identity evolves during career stages. Volkmann and Anderson (1998) see it as a state of complex and dynamic equilibrium balancing personal self-image and the social roles teachers are to play. Based on analysis of a number of studies, Beijaard et al. (2004) conclude that, although there are differences in definitions of teachers' professional identity, main elements of the definitions in the literature mostly include teachers' perceptions towards their roles as teachers or of themselves as an occupational group.

The literature reveals that teacher professional identity has four main features: 1) it is a dynamic and constantly changing phenomenon; 2) it is affected by contextual factors and responsive to them; 3) it has sub-identities; and 4) it involves the concept of teacher agency (Beijaard et al., 2004; Freisen & Besley, 2013; Meijer et al., 2011; Schepens et al., 2009). The

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factors of "immediate contexts, prior constructs of self, social positioning and meaning systems" intervene with teachers' relationships and meaning making and therefore shape their identity (Olsen, 2008). The meaning extracted by the teachers from these kinds of experiences plays a role in the formation and development of teacher identity (Sachs, 2005).

The pre-service teacher education period is pivotal for teacher identity development, since pre-service teachers encounter their profession, they are affected both by their educators and teachers they observe at schools, and the foundations of their professional identities are laid in these years (Arpacı & Bardakçı, 2015; Aykaç et al., 2017; Bullough, 1997; Hong, 2010). Lasky (2005) put forth that early professional training affected teachers' professional identities, along with other political and social contexts. Teacher education programs are ideal starting points for identity development, though it is accepted that identity development will continue throughout one's teaching career (Beauchamp & Thomas, 2009). Student teachers' conceptualization of the teaching profession affects their identity formation, and it is shaped by a number of factors, such as family, experiences at teacher education programs, and the status of the teaching profession in their country - though it begins with their personalities (Sugrue, 1997). As becoming a teacher can be described as a type of identity transformation (Briztman, 1991 as cited in Alsup, 2004), dwelling on identity formation and development at pre-service period is of great significance.

Though there is rich support in the literature for the prominence of identity development in becoming a teacher, how identity is reflected in teacher education programs is not overtly put forth (Beauchamp & Thomas, 2009). Research on prospective teachers' identity development is relevant to teacher trainers or educators at teacher training programs at universities for them to better understand prospective teachers' needs, and thereby support them (Beijaard et al., 2004). Bullough (1997, p.21) suggests that teacher education needs to start by exploring the teaching self. Although there are some studies dwelling on identity formation or development in teacher education programs at tertiary level in the international literature (Chang-Kredl & Kingsley, 2014; Hong, 2010; Ruohotie-Lyhty & Moate, 2016; Yuan & Mak, 2018; Tsybulsky & Muchnik-Rozanov, 2019), such kind of studies are quite rare in Turkey (Çetin & Eren, 2018; Uygun & Karalı, 2019).

Regarding the context in Turkey, it is quite hard to argue that student teachers studying at education faculties at universities choose that department because they really want to become a teacher. Higher Education Council in Turkey (2017) reported, based on a questionnaire, that students' preferences regarding university and department selection are guided by the main factors of job opportunities after graduation, university entrance examination scores, and the city of the university. Another factor affecting students' university selection is families' preferences. Whether the students really would like to become a teacher may be considered among the other factors. Another study also supports the fact that, among high school students in Turkey, the number one reason to go to university is getting a job (Koçyiğit, Eğmir & Akçil, 2018). As the public sector employs a large number of teachers, teaching departments are quite popular among potential university students, following other departments guaranteeing a job, such as medicine or engineering. Therefore, identity development of prospective teachers is of great significance in Turkey.

Additionally, what beliefs and experiences of being a teacher pre-service teachers bring with them to pre-service teacher education programs are likely to change to a great extent in the course of time spent at the faculty, in parallel with the courses they take and teaching practices they perform (Beijaard et al., 2004; Friesen & Besley, 2013); however, this process includes uncertainty and conflict (Meijer et al., 2011). As early teacher identity relies on pre-service teachers' earlier life experiences, and they may not have explored their reasons

for becoming a teacher, teacher educators should challenge their pre-conceived perceptions regarding the meaning of becoming a teacher (Freisen & Besley, 2013). However, when the practices are considered, it can be argued that while content area knowledge and pedagogical courses are highlighted at Turkish education faculties, prospective teachers' professional identity development is mostly ignored. On the other hand, a significant mechanism reflecting identity exploration in the identity development process is possible selves (Dunkel & Anthis, 2001).

Possible Selves Theory and Early Teacher Identity

In their review of articles on professional identity of teachers, Beijaard et al. (2004) conclude that the concept of 'self' is essential in definitions of professional identity. Teachers' or pre-service teachers' reflections regarding their selves seem to be a significant element of their identities. Based on self-reflection, prospective teachers establish a link between their experiences and their own knowledge and feelings and integrate socially relevant issues into their images of themselves as teachers (Beijaard et al., 2004).

The question of what kind of a teacher the pre-service teachers expect to be in the future is important in the formation of professional identity (Sachs, 2001). Bullough (1997) argues that exploring the teaching self is where teacher education must begin. Roberts (2000 as cited in Bjaard et al., 2004) adds that multiple-selves theory is relevant with professional identity and induction into teaching. Therefore, the possible selves theory introduced by Markus and Nurius (1986) deserves attention in understanding teacher professional identity. This theory has attracted a great deal of research activity. More recent studies employing this theory are on how possible selves may affect behaviors to identify the specific ways of helping people that are in transition periods in their lives (Hamman et al., 2010). As possible selves may enable identity exploration (Dunkel & Anthis, 2001), they may affect individuals' plans and actions regarding their future career.

Possible selves, as a type of self-knowledge, have to do with how individuals – pre-service teachers in this case – think about their potential and future. It includes the ideal selves people would like to become, the selves people could become, and the selves people are afraid of becoming: hoped-for selves, expected selves, and feared selves, respectively (Markus & Nurius, 1986). Therefore, possible selves are an individual's future-oriented positive or negative self-representations (Tatlı Dalioğlu & Adıgüzel, 2015). Possible selves reflect one's expectations such as aspirations, hopes, fears, or threats that they anticipate in the future (Hamman et al., 2010).

There are a number of selves embodied in an individual related to past, present, and future. One constructs one's own development through selecting or refusing possible selves. Therefore, it can be suggested that possible selves influence one's decision-making (Markus & Nurius, 1986). It is also revealed that possible selves are not static representations, but rather an active self-knowledge shaped by one's social contexts and experiences, which is addressed with the term "working self-concept" (Markus & Nurius, 1986; Oyserman & Fryberg, 2006). This changing form of possible selves may be helpful for the individuals in their identity exploration process. In addition to the fact that both possible selves and teacher professional identity are influenced by contextual factors, other common features they share include that they both involve representations to others and may both accommodate using strategies to generate a rhetorical outcome (Hamman et al., 2010).

The most dynamic period for identity is during late adolescence, in which occupational, familial, and identity concerns arise (Dunkel & Anthis, 2001). This period corresponds to the pre-service teachers in the current study. Furthermore, changes in life

phases and social contexts may cause the individual to experience different possible selves (Frazier & Hooker, 2006). Socio-cultural contexts, as well as psychological factors such as life experience and beliefs regarding their sufficiency, play roles in the formation of individuals' possible selves (Vernon, 2004). As senior pre-service teachers are on the verge of transition from student role to teacher role, their expected and feared selves may play a big role in their professional identity formation.

That both possible selves and professional identities of pre-service teachers depend on contextual factors makes the relationship between the two concepts more significant. Particularly the teaching practice course, offered to pre-service teachers in the last year of their education at education departments in Turkey, plays a key role in pre-service teachers' formation of professional identity, as it represents a realignment of identity due to differences in university setting and practice schools (Coward et al., 2015; Hamman et al., 2010; Smagorinsky et al., 2004). Possible selves theory provides a good framework to examine pre-service teachers' developing teacher identities (Hamman et al., 2010). Hence the link between pre-service teachers' early teacher identity development and their possible selves deserves more attention.

In the international literature, although there are some studies to identify the predictors of early teacher identity such as personal identity development, student identity, ethnic/cultural identity, generativity, commitment, efficacy, emotion, and micro-politics (Friesen & Besley, 2013; Hong, 2010), there are few studies employing possible selves theory in the examination of teacher professional identity (Chan, 2006; Hamman et al., 2010, 2012, 2013; Shoyer & Leshem, 2016). Regarding the Turkish context, possible selves theory studies are few and very recent (Babanoğlu & Ağçam, 2018; Gün & Turabik, 2019; Tatlı Dalioğlu & Adıgüzel, 2015; Tatlı Dalioğlu & Adıgüzel, 2017), starting with the adaptation of the New Teacher Possible Selves Questionnaire (NTPS), developed by Hamman, Wangve, and Burley (2013) with senior pre-service teachers. The NTPS Questionnaire eradicated the limitation of qualitative studies on the issue regarding generalizability.

Studies employing possible selves theory in early teacher identity is even scarcer (Çetin & Eren, 2018; Uygun & Karalı, 2019). Although previous research implies that possible selves are predictors of teacher professional identity, little research has been conducted to test the structural relationship between the two constructs. To fill the gap in the literature, the current study attempts to test the structural relationship among Turkish pre-service teachers' early teacher identity, expected possible selves, and feared possible selves, as well as analyze their identity and possible selves with respect to the variables of gender, grade, and department.

The research questions are as follows:

1. What are pre-service teachers' levels of expected and feared possible selves and early teacher identity?

2. Do pre-service teachers' levels of expected and feared possible selves and early teacher identity differ significantly in terms of their gender, grades, and departments?

3. What is the pattern of the relationships between expected and feared possible selves and early teacher identity?

Method
Context and participants
Turkey has an enormous education system due to its population. As of 2019, the number of students at formal education institutions at K-12 level is over 18 million, and the number of teachers exceeds one million. In 2018, there were over 7.5 million university students in the programs from associate degree to doctoral degree, 4.2 million of whom are undergraduate students at 206 universities. Of these undergraduates, 271 thousand students were studying at 96 education faculties, which means nearly one in every fifteen undergraduates would like to be a teacher (Erdem et al., 2019); however, as discussed in the introduction section, this influx pertains to employment opportunities.

In Turkey, the mainstream teacher training is offered at faculties of education of the universities as a 4-year bachelor's degree. Yet, 1-year pedagogical certificate programs in 93 main fields of teaching are also offered to non-educational faculty graduates or senior students. Pre-service teacher training is highly centralized in Turkey. All education faculties are expected to train teachers in line with teacher training curricula offered by the Council of Higher Education which are mainly based on three main areas of content knowledge and pedagogical courses including teaching practice as well as world knowledge courses. Upon graduation, teachers are selected to be appointed as teachers by the government following a central examination and interviews.

The participants in this study were recruited from the education faculty of a public university in the interior west region of Turkey. Regarding students' entry scores of central university admission exam, the university can be labeled as a medium-level one. Upon the elimination of incomplete data sets, the final number of the participants involved in the analysis was 350. Among them, 264 were females (75.4%) while 86 were males (24.6%). Data were collected only from the freshmen and senior students to be able to compare their levels with regard to starting and leaving points from the faculty. Of the students, 146 were first grade students (41.7%) while 204 were fourth grade students (58.3%). There were seven teaching departments at the university. Data were collected from all departments which were pre-school teaching (64), primary school teaching (76), elementary mathematics teaching (65), science teaching (26), social studies teaching (47), Turkish language teaching (47), and computer and instructional technologies (25). The reason for the relatively less number of participants from science teaching and computer and instructional technologies departments is that fewer students prefer to study these departments due to their disadvantage in employment after graduation.

Instruments
New Teacher Possible Selves Questionnaire
The NTPS Questionnaire was developed by Hamman et al. (2013) with senior student teachers in the U.S.A. in order to measure pre-service teachers' possible selves regarding their prospective first year in teaching. The questionnaire is composed of two 6-point Likert-type scales. The first is Expected Teacher Possible Selves Scale (ETPS), and the second is Feared Teacher Possible Selves Scale (FTPS). In this study, the adapted version of the scales is employed. The scales were adapted to Turkish culture in 2015 by Tatlı Dalioğlu and Adıgüzel (2015) with senior Turkish pre-service teachers.

Expected Teacher Possible Selves Scale
Expected teacher possible selves are about the possible selves that pre-service teachers expect to become after graduation. ETPS is composed of nine items distributed

under 'professionalism' and 'learning to teach' sub-dimensions. In the original study by Hamman et al. (2013), the initial explanatory factor analysis (EFA) results revealed that the two-factor structure explained a total of 68.5% variance. The confirmatory factor analysis (CFA) proved a good fit (CFI: .974, RMSEA: .048). In the current study, CFA was performed for ETPS since it was applied in a new sample. CFA proved a good fit when compared with the cut off points in the literature (Bollen, 1989, Kline, 2005; Schermelleh-Engel et al., 2003), $\chi2$ / df: 3.116, GFI: .957, CFI: .950, RMSEA: .078, NNFI: .925. Regarding the reliability analysis, the Cronbach's Alpha value for the total of the scale is calculated as .843, which is .796 and .717 for the factors of the ETPS, respectively.

Feared Teacher Possible Selves Scale

Feared teacher possible selves are about the possible selves that pre-service teachers fear becoming when they start teaching. FTPS is composed of nine items representing three factors, "uninspired instruction," "loss of control," and "uncaring teacher." In the original study by Hamman et al. (2013), the initial EFA results revealed that the two-factor structure explained a total of 75.4% variance. The CFA proved a good fit (CFI: .950, RMSEA: .075). In the current study, CFA was performed for FTPS since it was applied in a new sample. CFA proved a good fit when compared with the cut off points in the literature (Bollen, 1989, Kline, 2005; Schermelleh-Engel, Moosbrugger, & Müller, 2003), $\chi2$ / df: 3.267, GFI: .966, CFI: .984, RMSEA: .084, NNFI: .968. Regarding the reliability analysis, the Cronbach's Alpha value for the total of the scale is calculated as .933, which is .913, 846 and .878 for the factors of the ETPS, respectively.

Early Teacher Identity Measure (ETIM)

Based on self-categorization theory, ETIM was developed by Friesen and Besley (2013) to measure early teacher identities of pre-service teachers. The 5-point Likert-type scale is composed of self-categorization as a teacher, confidence in becoming a teacher, and participation as a teacher factors, measured with 17 items. The scale had a reliability value of .87. ETIM was adapted to Turkish by Arpacı and Bardakçı (2015) with pre-service teachers in Turkey. They performed analyses on both a single factor structure and three-factor structure. Although the three-factor structure had a good fit with the data set, further analyses were carried out since the correlations between the factors were very high. In the end, a single factor structure was validated explaining 48.94% of the variance with a Cronbach's alpha value of .93. In the current study, CFA was performed for ETIM since it was applied in a new sample. CFA proved a good fit when compared with the cut off points in the literature (Bollen, 1989, Kline, 2005; Schermelleh-Engel, Moosbrugger & Müller, 2003), $\chi2$ / df: 3.117, GFI: .893, CFI: .905, RMSEA: .078, NNFI: .887. Regarding the reliability analysis, the Cronbach's Alpha value for the scale is calculated as .906.

Procedure

Before data collection, permissions from the authors of scale adaptation studies were obtained to use the adapted versions of the scales. After this step, permission from the ethical committee of the university was obtained after they analyzed the study design and instruments. The data were collected at the end of the spring semester of 2018-2019 academic year at the education faculty of a university located in the interior west region of Turkey. Data collection forms were distributed to nearly 500 students and only the ones who volunteered filled in the forms. Demographics questionnaire was applied along with the

ETIM, ETPS, and FTPS. The pre-service teachers were provided with instructions on how to fill in the data collection forms.

Data analysis

Before starting the analyses, it was checked whether the data distributed normally or not. All the scales and factors were analyzed, and the Skewness and Kurtosis values were between +1.5 and -1.5, implying a normal distribution (Tabachnick & Fidell, 2013). Skewness and Kurtosis values were respectively as follows: ETIM total (-.586; .611), ETPS total (-.643; -.160), ETPS factor 1 (-.906; .566), ETPS factor 2 (-.759; .425), FTPS total (.267; -1.075), FTPS factor 1 (.267; -1.321), FTPS factor 2 (-.002; -.972), and FTPS factor 3 (.390; -1.125). Therefore, further analyses were carried out. For the first research question, descriptive statistics were used to identify the pre-service teachers' levels of expected and feared possible selves and early teacher identity. For the second research question, t tests (for grade and gender) and one way ANOVA (for department) were performed to reveal whether the pre-service teachers' levels of expected and feared possible selves and early teacher identity differed significantly in terms of their gender, grades, and departments. For the third research question, structural equation modeling (SEM) was used to test the hypothesized model. Before SEM, CFA was carried out for a model including all scales and factors.

Results
Results for the First Research Question

The first research question was about pre-service teachers' levels of expected and feared possible selves and early teacher identity. Descriptive statistics are provided below in Table 1.

Table 1.
Descriptive Statistics Regarding PSTs' Levels of ESTP, FSTP, and ETIM

Scale	N	Mean	SD
ETIM	350	4.02	.58
ETPS		5.36	.51
ETPS-F1		5.42	.53
ETPS-F2		5.27	.60
FTPS		3.11	1.36
FTPS-F1		3.08	1.62
FTPS-F2		3.29	1.34
FTPS-F3		2.98	1.58

PSTs' mean score of ETIM (4.02) reveals that their scores are in the range between 3.41 and 4.20, corresponding to "I agree" in scale form. This means Turkish PSTs in the sample have a high level of perception regarding their early teacher identity. PSTs' mean score of ETPS is 5.36, which corresponds to "absolutely do expect" option in the questionnaire. This means that Turkish PSTs' expected possible selves are very high. Regarding the factors of ETPS, the mean score for professionalism (F1) is 5.42 and for learning to teach (F2) is 5.27, both within the range of "absolutely do expect" option in the questionnaire. As for the feared possible selves, the mean score for the total scale is 3.11, which corresponds to 'sort of don't fear this' option in FTPS. The mean scores for the factors

of FTPS are all in the same range. This means they do not fear a lot for becoming an 'uncaring teacher' or providing an "uninspired instruction" or "losing of control" in the class.

Results for the Second Research Question

The second research question explored whether PSTs' levels of expected and feared possible selves and early teacher identity differed significantly in terms of their gender, grades, and departments. To identify the differences with regard to gender, independent samples t test was carried out. The results of this test are provided in Table 2.

Table 2.
Results Regarding Gender of PSTs

Measure	Gender	N	X̄	SD	df	t	P
ETIM	Female	264	4.06	.59	348	2.760	.006
	Male	86	3.87	.53			
ETPS	Female		5.41	.46		3.101	.002
	Male		5.19	.59			
ETPS Factor 1	Female		5.49	.47		3.561	.001
	Male		5.22	.65			
ETPS Factor 2	Female		5.30	.58		3.101	.002
	Male		5.15	.65			
FTPS	Female		3.10	1.31		-.210	.834
	Male		3.14	1.53			
FTPS Factor 1	Female		3.05	1.59		-.523	.601
	Male		3.16	1.72			
FTPS Factor 2	Female		3.33	1.27		.919	.360
	Male		3.16	1.55			
FTPS Factor 3	Female		2.93	1.53		-.920	.358
	Male		3.12	1.73			

Regarding early teacher identity, PSTs' level of ETIM scores differs significantly in terms of gender, t(348)=2.760, p<.05. Female PSTs have a significantly higher mean than male PSTs. PSTs' expected teacher possible selves also differ significantly in terms of gender both in the total of the scale, t(348)=3.101, p<.05, professionalism factor, t(348)=3.531, p<.05, and learning to teach factor, t(348)=3.101, p<.05. Contrary to ETIM and ETPS, PSTs' feared teacher possible selves do not differ significantly in the total FTPS, t(348)=-.210, p>.05 and factors of uninspired instruction, t(348)=-.523, p>.05, loss of control, t(348)=.919, p>.05, and uncaring teacher, t(348)=-.920, p>.05.

To identify the differences with regard to grade level, independent samples t test was carried out. The results of this test are provided in Table 3.

As evident in Table 3, PSTs' neither early teacher identity, t(348)=-.310, p>.05 nor expected teacher possible selves, t(348)=.809, p>.05 and feared teacher possible selves, t(348)=-.227, p>.05 differed significantly in terms of grade level. There was no significant difference in the sub-dimensions of ETPS and FTPS, p>.05.

To identify the differences with regard to departments, one-way ANOVA test was carried out. The results of this test are provided in Table 4. Table 4 reveals that PSTs' mean scores of ETIM [F(6, 343)=.483, p>.05], ETSP [F(6, 343)=1.224, p>.05] and factors of professionalism [F(6, 343)=1.161, p>.05] and learning to teach [F(6, 343)=1.518, p>.05] do

not differ significantly according to their departments. The teaching departments of PSTs are not significant variables for their levels of early teacher identity and expected possible selves. On the other hand, PSTs' mean scores of FTPS [$F_{(6, 343)}=4.145$, $p<.05$] differ significantly according to their departments. Regarding sub-dimensions of FTPS, while the factors of uninspired instruction [$F_{(6, 343)}=4.127$, $p<.05$] and uncaring teacher [$F_{(6, 343)}=4.506$, $p<.05$] differ significantly, the factor of loss of control does not differ significantly [$F_{(6, 343)}=1.687$, $p>.05$] in terms of departments.

Table 3.
Results Regarding Grade Levels of PSTs

Measure	Grade	N	X̄	SD	df	t	P
ETIM	Freshmen	146	4.00	.57	348	-.310	.756
	Senior	204	4.02	.59			
ETPS	Freshmen		5.38	.50		.809	.419
	Senior		5.33	.51			
ETPS Factor 1	Freshmen		5.44	.53		.640	.523
	Senior		5.41	.53			
ETPS Factor 2	Freshmen		5.30	.57		.822	.412
	Senior		5.24	.62			
FTPS	Freshmen		3.09	1.36		-.227	.820
	Senior		3.13	1.37			
FTPS Factor 1	Freshmen		3.04	1.68		-.339	.735
	Senior		3.10	1.59			
FTPS Factor 2	Freshmen		3.27	1.26		-.151	.880
	Senior		3.30	1.40			
FTPS Factor 3	Freshmen		2.97	1.64		-.112	.911
	Senior		2.99	1.54			

To identify the source of difference, Games-Howell post hoc test was carried out as equal variances were not assumed. The analysis reveals that, in both the total of FTPS and FTPS factors of 1 and 3, the difference is between pre-school teaching department and primary school teaching department, and between pre-school teaching department and elementary mathematics teaching department, in favor of pre-school teaching department in both cases. The mean score of pre-school department in FTPS, and first and third factors of FTPS are significantly higher than the mean scores of primary school teaching and elementary mathematics teaching departments.

Table 4.
Results Regarding Departments of PSTs

Measure	Department	N	X̄		Sum of Squares	Mean Square	df	F	p	Source of Difference
ETIM	Pre-school	64	4.04	Between Groups	.999	.167	6			
	Primary	76	4.03							
	Elem. Math	65	4.03					.483	.821	
	Science	26	3.94	Within Groups	118.133	.344	343			
	Social St.	47	4.06							
	Turkish	47	4.03							

Measure	Department	N	X		Sum of Squares	Mean Square	df	F	p	Source of Difference
	CEIT	25	3.85							
ETPS	Pre-school	64	4.02	Between Groups	1.906	.318	6	1.224	.293	
	Primary	76	5.29							
	Elem. Math	65	5.39							
	Science	26	5.31							
	Social St.	47	5.58	Within Groups	89.036	.260	343			
	Turkish	47	5.30							
	CEIT	25	5.33							
ETPS Factor 1	Pre-school	64	5.36	Between Groups	1.989	.331	6	1.161	.327	
	Primary	76	5.52							
	Elem. Math	65	5.39							
	Science	26	5.58							
	Social St.	47	5.40	Within Groups	97.930	.286	343			
	Turkish	47	5.38							
	CEIT	25	5.34							
ETPS Factor 2	Pre-school	64	5.21	Between Groups	3.291	.548	6	1.518	.171	
	Primary	76	5.24							
	Elem. Math	65	5.21							
	Science	26	5.57							
	Social St.	47	5.32	Within Groups	123.944	.361	343			
	Turkish	47	5.21							
	CEIT	25	5.33							
FTPS	Pre-school	64	3.59	Between Groups	44.113	7.352	6	4.145	.000	1-2 1-3
	Primary	76	2.73							
	Elem. Math	65	2.71							
	Science	26	3.28							
	Social St.	47	3.50	Within Groups	608.456	1.774	343			
	Turkish	47	3.19							
	CEIT	25	3.08							
FTPS Factor 1	Pre-school	64	3.69	Between Groups	63.648	10.608	6	4.127	.000	1-2 1-3
	Primary	76	2.62							
	Elem. Math	65	2.58							
	Science	26	3.24							
	Social St.	47	3.47	Within Groups	862.727	2.515	343			
	Turkish	47	3.14							
	CEIT	25	3.16							
FTPS Factor 2	Pre-school	64	3.51	Between Groups	18.141	3.024	6	1.687	.123	
	Primary	76	3.05							
	Elem. Math	65	3.06							
	Science	26	3.35							
	Social St.	47	3.63	Within Groups	614.800	1.792	343			
	Turkish	47	3.41							
	CEIT	25	3.10							
FTPS Factor 3	Pre-school	64	3.57	Between Groups	68.853	10.642		4.506	.000	1-2 1-3
	Primary	76	2.52							
	Elem. Math	65	2.50							
	Science	26	3.25							
	Social St.	47	3.40	Within Groups	810.167	2.362				
	Turkish	47	3.01							
	CEIT	25	2.97							

Results for the Third Research Question

The third research question was about the pattern of the relationships between expected and feared possible selves and early teacher identity. To explore this issue, a model of relationships was hypothesized and tested through SEM.

The Present Model

In this model, the relationships between expected and feared possible selves and early teacher identity were attempted to be tested. The model proposed posits that both expected and feared possible selves significantly predict early teacher identity; however, expected possible self, which is composed of professionalism and learning to teach sub-dimensions, has a positive relationship with early teach identity while feared possible self, which is composed of "uninspired instruction," "loss of control," and "uncaring teacher" sub-dimensions, has a negative relationship with early teacher identity.

To test the model, first, a CFA was performed which included all the measures simultaneously. CFA proved a good fit when compared with the cut off points in the literature (Bollen, 1989, Kline, 2005; Schermelleh-Engel et al., 2003), $\chi 2$ / df: 2.020, GFI: .850, CFI: .915, RMSEA: .054, and NNFI: .905. To test the concurrent pattern of the relationships, SEM was carried out. After carrying out some modifications, the results of the fit indices revealed that there was an acceptable fit model (Bollen, 1989, Kline, 2005; Schermelleh-Engel et al., 2003), $\chi 2$ / df: 2.091, GFI: .845, CFI: .907, RMSEA: .056, and NNFI: .899. For structural equation modeling, Path coefficients are provided in Figure 1 below.

Figure 1.
Path Coefficients of the Model

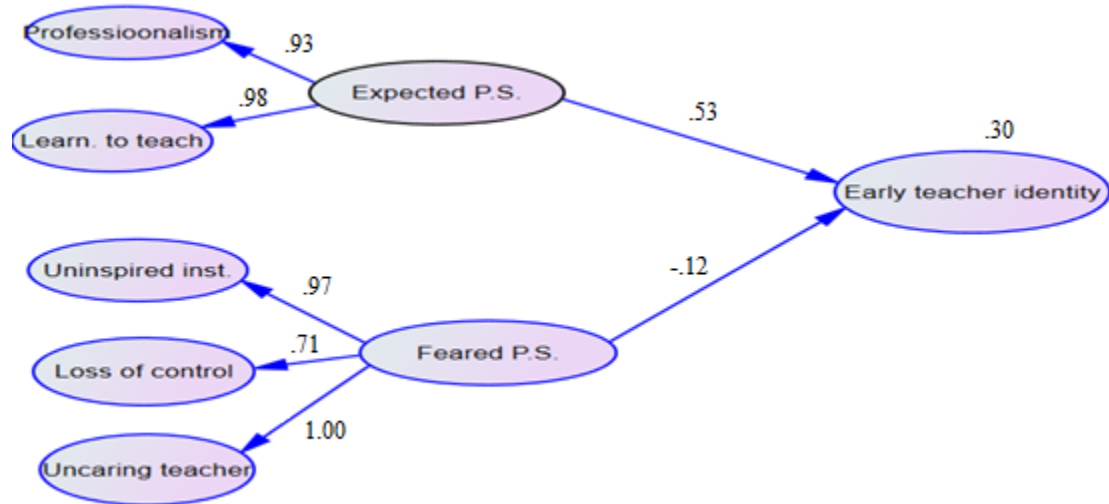Figure 1 reveals that expected teacher possible selves is a significant positive predictor of early teacher identity (β=.53, p<.01) and feared teacher possible selves is a significant negative predictor of early teacher identity (β=-.12, p<.01). This model explains .30 of the change in early teacher identity. All results of the relationships in the structural equation model are provided in Table 5.

Table 5.
Estimate Values of SEM

Dependent variables	Independent variables	Estimate Coefficient β	Standard Error (S.E.)	Critical Rate (C.R.)	Significance (p)
Expected P.S.	Professionalism	.928	.044	10.133	***
Expected P.S.	Learning to teach	.983	.052	7.539	***
Feared P.S.	Uninspired instruction	.969	.082	18.374	***
Feared P.S.	Uncaring teacher	1.00	.084	15.262	***
Feared P.S.	Loss of control	.707	.070	12.046	***
Early T. Identity	Expected P.S.	.531	.048	7.732	***
Early T. Identity	Feared P.S.	-.117	.037	-2.238	.025

Discussion

Pre-service teacher education matters to a great extent in the professional identity formation of teachers. Despite this significance, early teacher identity development has recently attracted scholarly attention, particularly in the Turkish context. Research dwelling on PSTs' teacher identity is quite scarce in Turkey. There are so far only four graduate level research studies with regard to early teacher identity, for instance (Arpacı, 2015; Ceylan, 2019; Çetin, 2017; Taşdemir, 2016). This study, therefore, has set out to examine PSTs' early teacher identity in Turkish context and the expected and feared possible selves of PSTs as predictors of early teacher identity based on empirical data from 350 freshmen and senior PSTs.

Turkish PSTs in the current study have a high level of perception regarding their early teacher identity. In other words, PSTs in this study have positive perceptions of themselves as teachers, which seems to be good news. In the study by Friesen and Besley (2013), student teachers were found to have a high level of early teacher identity, too. Other research studies in the Turkish context also have revealed that Turkish PSTs have a high level of early teacher identity (Alkış Küçükaydın & Gökbulut, 2019; Aptekin Yolcu 2018; Babanoğlu & Ağçam 2019; Ceylan, 2019; Çelik & Kalkan, 2019; Eğmir & Çelik, 2019; Karalı, 2018). Even the PSTs attending a pedagogical formation program (non-education graduates taking pedagogy courses to be a teacher) were found to have high level of ETI (Ulubey et al., 2018; Uluyol & Şahin, 2018).

Studies carried out in Turkey dwelling on PSTs' perception of proficiency in teaching have mostly yielded high levels as well (Akbulut, 2006; Büyükduman, 2006; Erişen & Çeliköz, 2003; Gencer & Çakıroğlu, 2006; Ülper & Bağcı, 2012). Çetin (2017) also report a high level of early teacher identity and, based on some analyses, argues that PSTs overshoot themselves in reflecting their teacher identities and tend to show higher levels of identity than they really have as the issue of measurement is a socially desired characteristic. Therefore, other measures such as interviews or observations are needed to support quantitative findings.

Regarding ETPS, Turkish PSTs' expected possible selves are found to be very high. The factors of professionalism and learning to teach are also within the range of "absolutely do expect" option in the questionnaire. Limited research studies regarding Turkish PSTs' expected possible selves yield support to this finding (Gün & Turabik, 2019; Karalı, 2018; Koca, 2016; Ölçer, 2019). This reveals that Turkish PSTs have very positive opinions with regard to their first year of teaching in the future.

As for the feared possible selves, PSTs' mean scores in FTPS and factors of it correspond to "sort of don't fear this" option in FTPS, which suggest that they do not fear a lot for becoming an "uncaring teacher," providing "uninspired instruction," or "losing of control" in the class. Similar studies also support this finding (Gün & Turabik, 2019; Karalı, 2018; Ölçer, 2019). Though not directly addressing feared possible selves of PSTs, studies on Turkish PSTs' anxiety level regarding teaching profession have unearthed that their anxiety levels are not high (Akgün & Özgür, 2014; Bozdam & Taşğın, 2011; Doğan & Çoban, 2009; Özen et al., 2013). The factor with the highest mean in the current study is loss of control, which is related to classroom management. This may be due to their lack of teaching practice. This is in line with other studies (Gün & Turabik, 2019). Additionally, Çakmak (2008) found out that the area that Turkish PSTs had most anxiety was classroom management.

PSTs' levels of early teacher identity and possible selves have been also probed in the current study with respect to gender, grade level, and departments, as these variables may give clues about some of the underlying factors of teacher identity, as teacher identity formation is a complex process and it is affected by many factors (Beijaard et al., 2004; Meijer et al., 2011; Sugrue, 1997). Gender stereotypes in the culture, the effect of pre-service teacher education, and roles and job opportunities of departments may interfere with the results. Therefore, these variables have been examined. Regarding early teacher identity, PSTs' levels of ETIM scores differ significantly in terms of gender. Female PSTs have a significantly higher mean than male PSTs. This difference in favor of female PSTs is also supported by research in Turkish context (Aptekin Yolcu, 2018; Babanoğlu & Ağçam, 2019; Çelik & Kalkan, 2019; Eğmir & Çelik, 2019; Karalı, 2018) though Çetin (2017) and Alkış Küçükaydın and Gökbulut (2019) found no significant difference in terms of gender.

PSTs' expected teacher possible selves also differ significantly in terms of gender both in the total of the scale, professionalism factor, and learning to teach factor in favor of women, which is in line with Karalı (2018), Ölçer (2019) and Tatlı Dalioğlu (2006) but not with Çetin (2017). Contrary to ETIM and ETPS, PSTs' feared teacher possible selves do not differ significantly in the total FTPS and factors. Similar studies also found no significant difference in PSTs' feared possible selves in terms of gender (Çetin, 2017; Karalı, 2018). Ölçer (2019) found a significant difference only in loss of control factor, and Tatlı Dalioğlu (2016) found a difference in favor of female PSTs. Çakmak (2008) also measured Turkish PSTs' anxiety levels and found no difference.

The differences between males and females may have to do with gender mainstreaming. Regarding the socio-cultural context in Turkey, teaching profession is perceived as an appropriate job for women by most members of the society. Women's role of motherhood is linked with the teaching profession in the society (Gökçen & Büyükgöze-Kavas, 2018). This is also evident in the fact that the number of female teachers is much higher than male teachers. Therefore, it can be suggested that the society supports women's preparedness for teaching profession in terms of affective readiness.

This is also related to the branch of teaching. Some branches, though few in number and not included in the current study, such as physical education and sports, are linked with men and, therefore, in a study examining physical education, pre-service teachers'

professional selves differed significantly in favor of males (Özdemir et al., 2002). The difference in early teacher identity and expected possible selves in favor of women may be accounted for by gender mainstreaming and cultural issues in Turkey. On the other hand, why there is not a significant difference in feared teacher possible selves in terms of gender is a matter of question. This may mean that though female PSTs' expectations are higher due to some cultural issues, they have similar fears regarding teaching in their first year after graduation just like male PSTs.

PSTs' neither early teacher identity nor expected and feared teacher possible selves differed significantly in terms of grade level. The results in the literature regarding the grade level are mixed. Eğmir and Çelik (2019) and Çelik and Kalkan (2019) found a significant difference in PSTs' mean scores of early teacher identity in terms of grade level. The senior students had higher means. On the other hand, Alkış Küçükaydın and Gökbulut (2019) and Aptekin Yolcu (2018) found no significant difference in early teacher identity in terms of grade level, and Karalı (2018) found no difference for early teacher identity and expected and possible selves. Çetin (2017) found a significant difference yet the size of the effect was very little. Interestingly, Ölçer (2019) found no significant difference in PSTs' feared possible selves yet identified that grade level had an effect on expected possible selves in favor of freshmen students.

The results in this study with regard to grade level and the mixed results are unexpected. It is naturally expected that both the theoretical courses throughout the four years of teacher education and the teaching practice courses in the final year should have a positive effect on PSTs professional teacher identities and possible selves. This requires questioning of the effectiveness of pre-service teacher education in Turkey. The mixed results obtained from different universities also refer to differences in the quality of education around the country.

Though the difference with regard to grade level is not significant in the current study, it is observed that freshmen students' expected possible selves means are higher and feared possible selves means are lower. This means that freshmen students have higher expectations and lower fears regarding their first of your teaching after graduation. In addition to the discussion above about the effectiveness and quality of pre-service teacher education, these results may have to do with "courage of ignorance," meaning the first-year students may not be aware of realities of teaching profession. Freshmen PSTs who have not taken theoretical courses and teaching practices in the course of their education may have higher expectations and lower fears, which gives way to a more solid picture of teaching profession in the final year.

Another side of the case is that Hong and Grene (2011) deduced in their qualitative study that PSTs' earlier experiences regarding teaching profession have more effect on their expected and feared teacher possible selves than pre-service teacher education. On the other hand, Itoi (2014) examined PSTs' possible selves in the last ten months of pre-service teacher education and argued that teaching practice was a significant factor on their possible selves and helped them gain a more realistic perspective. The difficult and negative experiences PSTs have experienced also affect their self-esteem regarding the teaching profession. Considering the criticisms over Turkish pre-service teacher training due to insufficient teaching practice experiences and lack of university-school cooperation (Eret, 2013; Kozikoğlu, 2016; Oskay et al., 2010; Taşdere, 2014), the results of the current study are unequivocal.

The teaching departments of PSTs are not significant variables for their levels of early teacher identity and expected possible selves. On the other hand, PSTs mean scores of feared

possible selves differ significantly according to their departments. Regarding sub-dimensions, while the factors of "uninspired instruction" and "uncaring teacher" differ significantly, the factor of "loss of control" does not differ significantly in terms of departments. Regarding the source of difference, in both the total of FTPS and FTPS factors of 1 and 3, the difference is between pre-school teaching department and primary school teaching department, and between pre-school teaching department and elementary mathematics teaching department, in favor of pre-school teaching department in both cases. Though some study results support this finding (Eğmir & Çelik, 2019), there are studies reporting no difference (Çetin, 2017) or a difference in favor of other departments, such as psychological counseling teacher training (Çelik & Kalkan, 2019).

That PSTs in the current study have significantly higher scores for fears of "uninspired instruction" and "uncaring teacher" may be related to the characteristics of their teaching departments. As they address very young children, they are expected to care for their students not only academically but also personally. They undertake quite different educational activities in their lessons, as opposed to more academic teaching styles in later stages of education. This expectation from them regarding caring for children and inspiring students seems to impose fear on them.

The current study reveals that expected teacher possible selves is a significant positive predictor of early teacher identity and feared teacher possible selves is a significant negative predictor of early teacher identity. Put differently, expected teacher possible selves has a medium level significant and positive effect on early teacher identity while feared teacher possible selves has a low level significant and negative effect on early teacher identity. In a correlational study in Turkish context (Karalı, 2018), it was identified that expected possible selves has a positive medium level correlation with early teacher identity, while feared possible selves has a negative and medium correlation. The current study found the effect of feared possible selves is lower. Tatlı Dalioğlu (2016) asked PSTs "How much do you feel like a teacher right now?" and deduced that those who answered this question as "high" had higher levels of expected possible selves and lower levels of feared possible selves. This way, she refers to a relationship between possible selves and perceived teacher identity.

Conclusion and Implications

The results put forth in the current study have significance for the literature in the sense that this study tests the theoretical relationship between PSTs' possible selves and early teacher identity. Given the strength of the relationships, it can be suggested based on this study that positive expectations have more effect on early teacher identity than fears. For the practitioners, this means an implication that positive attitudes and expectations towards experience of first year of teaching after graduation in specific, and the teaching profession in general, are quite effective in forming teacher professional identity. Therefore, teacher educators at education schools should promote positive attitudes and expectations, as well as work to eliminate fears towards teaching which, again, refers to affective development in pre-service teacher education that is mostly ignored in the Turkish context.

As teacher identity is expected to change in the course of time spent at education schools (Beijaard et al., 2004; Friesen & Besley, 2013), this issue is of utmost significance. Given the significant role of possible selves on teacher identity, identifying PSTs' expected and feared possible selves and analyzing in which factors and items they have problems may yield a route map for pre-service teacher educators to focus on. Regarding the variables, it is evident that male PSTs in Turkey need more support, and pre-service teacher education lacks the expected effect on the development of PSTs possible selves and early teacher identity.

Limitations and suggestions for future research
The scores obtained from ETIM and ETPS refer to high levels and from FTPS refer to low levels, which may be due to quantitative measures. People tend to overrate themselves in self-assessment measures (Dunning, Heath & Suls, 2004). Therefore, these studies should be supported with qualitative and longitudinal studies. Yet, the literature also lacks sufficient quantitative studies to reveal more empirical data which would be used for a meta-analysis study. The relationship between possible selves and early teacher identity and other predictors of teacher identity should be empirically tested to enable more sound assumptions on teacher identity development. Given the context in Turkey, this need is even further, as research on this scope is quite limited. In the structural equation modeling, the demographic factors may be added to the model, and their concurrent effects may be tested in the model

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